



**SPRING GROVE AREA SCHOOL DISTRICT**

**PLANNED COURSE OVERVIEW**



<b>Course Title:</b> Independent Study Athletic Performance Training <b>Grade Level(s):</b> 12 <b>Units of Credit:</b> 1 <b>Classification:</b> Elective	<b>Length of Course:</b> 30 cycles <b>Periods Per Cycle:</b> 6 <b>Length of Period:</b> 43 minutes <b>Total Instructional Time:</b> 129 hours
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***Course Description***

Students participating in the course will work toward specific athletic performance goals for the sport of their preference. Students will use specific workout protocols from high school coaches and collegiate level programs to guide their training. Students will enroll in this course for the entire year to allow for specific training phases related to their sports peak performance times. In addition to independent study training, students will be required to participate in an independent learning project outside the classroom setting related to their sport or activity. Students will set individual goals specific to their present levels of performance and periodically evaluate personal progress.

***Instructional Strategies, Learning Practices, Activities, and Experiences***

Triphasic Program Design and Practice Pre and Post Testing of Fitness Levels	Individual Goal Setting Journaling	Fitness Technology Research
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***Assessments***

Independent Study Strength Journaling	Obtainment of Goals	Written Project
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***Materials/Resources***

Books Weight and Cardio Equipment	Internet College Level Strength Coach Collaboration	Spring Grove Athletic Trainer Collaboration
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**Adopted:** 5/20/2019

**Revised:** 11/23/2020

CONTENT/KEY CONCEPTS	OBJECTIVES/STANDARDS
<p>Students will use a performance test to develop baseline data of present levels of fitness.</p> <p>Students will develop basic protocols to improve overall fitness levels and examine sport specific skills of fitness.</p> <p><u>Related Vocabulary:</u>                      cardiovascular endurance                      flexibility                      muscular strength                      muscular endurance                      agility                      speed                      balance                      coordination                      spotting                      goal setting                      overtraining                      periodization</p>	<p><b>10.3.12.D</b> - Evaluate the benefits, risks, and safety factors associated with self-selected life-long physical activities.</p> <p><b>10.4.12.A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.</p> <p><b>10.4.12.B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.</p> <p><b>10.4.12.C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.</p> <p><b>10.4.12.D</b> - Evaluate factors that affect physical activity and exercise preferences of adults.</p> <p><b>10.4.12.E</b> - Analyze the interrelationships among regular participation in physical activity, motor skill improvement, and the selection and engagement in lifetime physical activities.</p> <p><b>10.4.12.F</b> - Assess and use strategies for enhancing adult group interaction in physical activities.</p> <p><b>10.5.12.A</b> - Apply knowledge of movement skills, skill-related fitness, and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.</p> <p><b>10.5.12.B</b> - Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.</p> <p><b>10.5.12.C</b> - Evaluate the impact of practice strategies on skill development and improvement.</p> <p><b>10.5.12.D</b> - Incorporate and synthesize knowledge of exercise principles, training principles, and health and skill-related fitness components to create a fitness program for personal use.</p> <p><b>10.5.12.E</b> - Evaluate movement forms for appropriate application of scientific and biomechanical principles.</p> <p><b>10.5.12.F</b> – Analyze the application of game strategies for different categories of physical activities.</p>

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<p>Students will develop an exercise program tailored to meet the objectives of the individual while considering the individuals age, health, fitness status, musculoskeletal condition, and body composition.</p> <p>Students will establish the minimum levels of physical activity required to achieve some of the health benefits of exercise.</p> <ul style="list-style-type: none"> <li>• Overload Principle</li> <li>• Principle of Progression</li> <li>• Principle of Reversibility</li> <li>• Components of the exercise prescription</li> </ul> <p><u>Related Vocabulary:</u>                      overload                      progression                      reversibility                      warm-up                      cool down                      exercise                      goals                      modes of exercise                      fitness status                      musculoskeletal condition                      body composition                      exercise threshold                      exercise prescription                      individualized                      recuperation</p>	<p><b>10.3.12.B</b> - Analyze and apply strategies for the management of injuries.  <b>10.3.12.D</b> - Evaluate the benefits, risks, and safety factors associated with self-selected life-long physical activities.</p> <p><b>10.4.12.A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.  <b>10.4.12.B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.  <b>10.4.12.C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.  <b>10.4.12.D</b> - Evaluate factors that affect physical activity and exercise preferences of adults.  <b>10.4.12.E</b> - Analyze the interrelationships among regular participation in physical activity, motor skill improvement, and the selection and engagement in lifetime physical activities.  <b>10.4.12.F</b> - Assess and use strategies for enhancing adult group interaction in physical activities.</p> <p><b>10.5.12.A</b> - Apply knowledge of movement skills, skill-related fitness, and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.  <b>10.5.12.B</b> - Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.  <b>10.5.12.C</b> - Evaluate the impact of practice strategies on skill development and improvement.  <b>10.5.12.D</b> - Incorporate and synthesize knowledge of exercise principles, training principles, and health and skill-related fitness components to create a fitness program for personal use.  <b>10.5.12.E</b> - Evaluate movement forms for appropriate application of scientific and biomechanical principles.  <b>10.5.12.F</b> – Analyze the application of game strategies for different categories of physical activities.</p>

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<p>Strength training can:</p> <ul style="list-style-type: none"> <li>• Reduce low back pain</li> <li>• Reduce the incidence of exercise-related injuries</li> <li>• Decrease the incidence of osteoporosis</li> <li>• Aid in the maintenance of functional capacity</li> <li>• Promote the formation of new muscle fibers (hyperplasia)</li> </ul> <p>Muscular Strength</p> <ul style="list-style-type: none"> <li>• The amount of weight that an individual can lift during one maximal effort</li> </ul> <p>Skeletal Muscles</p> <ul style="list-style-type: none"> <li>• Composed of a collection of fibers and are attached by bones by tendons</li> <li>• Muscular contraction results in the tendons pulling on the bone, causing movement</li> </ul> <p>Two primary physiological factors determine the amount of force that can be generated by a muscle</p> <ul style="list-style-type: none"> <li>• Size of muscle</li> <li>• Number of muscle fibers recruited</li> </ul> <p>Muscle Size</p> <ul style="list-style-type: none"> <li>• Increased primarily because of an increase in fiber size (hypertrophy)</li> </ul> <p>Overload Principle</p> <ul style="list-style-type: none"> <li>• A muscle will increase in strength and/or endurance only when it works against a workload such as free weights or weight machines</li> </ul>	<p><b>10.3.12.D</b> - Evaluate the benefits, risks, and safety factors associated with self-selected life-long physical activities.</p> <p><b>10.4.12.A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.</p> <p><b>10.4.12.B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.</p> <p><b>10.4.12.C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.</p> <p><b>10.4.12.D</b> - Evaluate factors that affect physical activity and exercise preferences of adults.</p> <p><b>10.4.12.E</b> - Analyze the interrelationships among regular participation in physical activity, motor skill improvement, and the selection and engagement in lifetime physical activities.</p> <p><b>10.4.12.F</b> – Assess and use strategies for enhancing adult group interaction in physical activities.</p> <p><b>10.5.12.A</b> - Apply knowledge of movement skills, skill-related fitness, and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.</p> <p><b>10.5.12.B</b> – Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.</p> <p><b>10.5.12.C</b> – Evaluate the impact of practice strategies on skill development and improvement.</p> <p><b>10.5.12.D</b> – Incorporate and synthesize knowledge of exercise principles, training principles, and health and skill-related fitness components to create a fitness program for personal use.</p> <p><b>10.5.12.E</b> – Evaluate movement forms for appropriate application of scientific and biomechanical principles.</p> <p><b>10.5.12.F</b> – Analyze the application of game strategies for different categories of physical activities.</p>

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<p>Isokinetic Exercises</p> <ul style="list-style-type: none"> <li>• Require use of machines that govern the speed of movement during the muscle contraction throughout the range of motion</li> </ul> <p>Strength Training Programs:</p> <ul style="list-style-type: none"> <li>• Starter phase</li> <li>• Slow-progression phase</li> <li>• Maintenance phase</li> </ul> <p><u>Related Vocabulary:</u></p> <p>muscular strength  muscular endurance  muscle fiber  contraction  tendon  bone  muscles of the human body  isometric  isokinetic  isotonic  hypertrophy  hyperplasia  free weight</p>	

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<p>Flexibility</p> <ul style="list-style-type: none"> <li>• The range of motion of a joint</li> </ul> <p>Improved flexibility results in:</p> <ul style="list-style-type: none"> <li>• Increased joint mobility</li> <li>• Prevention of low back pain problems</li> <li>• Efficient body movement</li> <li>• Improved posture</li> <li>• Personal appearance</li> </ul> <p>Four structural and physiological limits to flexibility:</p> <ul style="list-style-type: none"> <li>• Bone</li> <li>• Muscle structures within the joint capsule</li> <li>• Tendons that connect muscle to bones</li> <li>• Connective tissue that surrounds joints and skin</li> </ul> <p>Static vs. Dynamic Stretching</p> <ul style="list-style-type: none"> <li>• If muscle spindles are suddenly stretched, they respond by initiating a stretch reflex that causes the muscle to contract. However, if muscles and tendons are stretched slowly, the stretch reflex can be avoided.</li> </ul> <p>Proprioceptive Neuromuscular Facilitation (PNF) combines stretching with alternative contraction and relaxation of muscles to improve flexibility</p> <p>Functional Movement Screening (FMS)</p>	<p><b>10.3.12. D</b> - Evaluate the benefits, risks, and safety factors associated with self-selected life-long physical activities.</p> <p><b>10.4.12. A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.</p> <p><b>10.4.12. B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.</p> <p><b>10.4.12. C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.</p> <p><b>10.4.12. D</b> - Evaluate factors that affect physical activity and exercise preferences of adults.</p> <p><b>10.4.12. E</b> - Analyze the interrelationships among regular participation in physical activity, motor skill improvement, and the selection and engagement in lifetime physical activities.</p> <p><b>10.4.12. F</b> - Assess and use strategies for enhancing adult group interaction in physical activities.</p> <p><b>10.5.12. A</b> - Apply knowledge of movement skills, skill-related fitness, and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.</p> <p><b>10.5.12. B</b> - Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.</p> <p><b>10.5.12. C</b> - Evaluate the impact of practice strategies on skill development and improvement.</p> <p><b>10.5.12. D</b> - Incorporate and synthesize knowledge of exercise principles, training principles, and health and skill-related fitness components to create a fitness program for personal use.</p> <p><b>10.5.12. E</b> - Evaluate movement forms for appropriate application of scientific and biomechanical principles.</p> <p><b>10.5.12. F</b> - Analyze the application of game strategies for different categories of physical activities.</p>

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<p><u>Related Vocabulary:</u> flexibility joint posture static dynamic ballistic proprioceptive neuromuscular facilitation (PNF) mobility reflex functional movement systems (FMS)</p>	

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<p>Nutrition</p> <ul style="list-style-type: none"> <li>• The study of food and its relationship to health and disease</li> </ul> <p>A well-balanced diet</p> <ul style="list-style-type: none"> <li>• Composed of a variety of nutrients</li> <li>• The basic goals of developing good nutritional habits are to maintain ideal body weight</li> <li>• Intensity of exercise dictates the relative proportions of fat and carbohydrates that are consumed as fuel during exercise</li> <li>• The lower the intensity of the exercises, the more fat is used as fuel; the greater the intensity, the more carbohydrates are used as fuel</li> </ul> <p><u>Related Vocabulary:</u></p> <p>nutrient          carbohydrate          fat          water          protein          supplement          calorie          vitamin          diet</p>	<p><b>10.1.10.A</b> - Evaluate factors that impact growth and development during adulthood and late adulthood.  <b>10.1.10.B</b> - Evaluate factors that impact the body systems and apply protective/preventive strategies.  <b>10.1.10.C</b> - Analyze factors that impact nutritional choices of adults.  <b>10.1.10.E</b> - Identify and analyze factors that influence the prevention and control of health problems.</p> <p><b>10.2.10.A</b> - Evaluate health care products and services that impact adult health practices.  <b>10.2.10.B</b> - Assess factors that impact adult health consumer choices.  <b>10.2.10.D</b> - Examine and apply a decision-making process to the development of short and long-term health goals.  <b>10.2.10.E</b> - Analyze the interrelationship between environmental factors and community health.</p> <p><b>10.3.10.D</b> - Evaluate the benefits, risks, and safety factors associated with self-selected life-long physical activities.</p> <p><b>10.4.10.A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.  <b>10.4.10.B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.  <b>10.4.10.C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.</p>

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<p>Develop a cross-training program working on all forms of health related fitness</p> <ul style="list-style-type: none"> <li>• Specific exercises build cardiorespiratory endurance</li> <li>• Specific exercises/workouts build muscular strength and endurance</li> <li>• Specific exercises increase flexibility</li> </ul> <p><u>Related Vocabulary:</u>                      free-weight movement exercises:                      bench press                      squat                      clean                      curl                      military press</p> <p>weight loaded matching exercises:                      chest press                      overhead press                      leg extension                      leg curl</p> <p>body weight exercises:                      pull up                      sit-up                      knee raise</p>	<p><b>10.3.12.D</b> - Evaluate the benefits, risks, and safety factors associated with self-selected life-long physical activities.</p> <p><b>10.4.12.A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.</p> <p><b>10.4.12.B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.</p> <p><b>10.4.12.C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.</p> <p><b>10.4.12.D</b> - Evaluate factors that affect physical activity and exercise preferences of adults.</p> <p><b>10.4.12.E</b> - Analyze the interrelationships among regular participation in physical activity, motor skill improvement, and the selection and engagement in lifetime physical activities.</p> <p><b>10.4.12.F</b> - Assess and use strategies for enhancing adult group interaction in physical activities.</p> <p><b>10.5.12.A</b> - Apply knowledge of movement skills, skill-related fitness, and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.</p> <p><b>10.5.12.B</b> - Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.</p> <p><b>10.5.12.C</b> - Evaluate the impact of practice strategies on skill development and improvement.</p> <p><b>10.5.12.D</b> - Incorporate and synthesize knowledge of exercise principles, training principles, and health and skill-related fitness components to create a fitness program for personal use.</p> <p><b>10.5.12.E</b> - Evaluate movement forms for appropriate application of scientific and biomechanical principles.</p> <p><b>10.5.12.F</b> - Analyze the application of game strategies for different categories of physical activities.</p>

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<p>cardiorespiratory endurance machines: treadmill stationary bike rower arc trainer elliptical</p> <p>plyometric exercises: dumb bell barbell target heart rate</p>	

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<p>Fitness Plan</p> <ul style="list-style-type: none"> <li>• Sport-specific exercises and movements should be incorporated into fitness programming</li> <li>• Goal setting with sport specific testing protocols</li> <li>• Develop benchmarks for improvement</li> <li>• Cycling to prevent plateauing - how to best modify a program over time</li> <li>• Adapt programming to meet the needs of in-season competitions</li> </ul> <p><u>Related Vocabulary:</u>                      sport or activity choice                      speed                      agility                      coordination                      strength                      endurance                      body composition                      overload                      progression                      plateau                      reps                      sets                      movement type                      frequency                      intensity                      time                      volume                      pacing                      overtraining</p>	<p><b>10.4.10.A</b> - Evaluate and engage in an individualized physical activity plan that supports achievement of personal fitness and activity goals and promotes life-long participation.</p> <p><b>10.4.10.B</b> - Analyze the effects of regular participation in a self-selected program of moderate to vigorous physical activities.</p> <p><b>10.4.10.C</b> - Evaluate how changes in adult health status may affect the responses of the body systems during moderate to vigorous physical activity.</p> <p><b>10.4.10.D</b> - Evaluate factors that affect physical activity and exercise preferences of adults.</p> <p><b>10.4.10.E</b> - Analyze the interrelationships among regular participation in physical activity, motor skill improvement, and the selection and engagement in lifetime physical activities.</p> <p><b>10.4.10.F</b> - Assess and use strategies for enhancing adult group interaction in physical activities.</p> <p><b>10.5.10.A</b> - Apply knowledge of movement skills, skill-related fitness, and movement concepts to identify and evaluate physical activities that promote personal lifelong participation.</p> <p><b>10.5.10.B</b> - Incorporate and synthesize knowledge of motor skill development concepts to improve the quality of motor skills.</p> <p><b>10.5.10.C</b> - Evaluate the impact of practice strategies on skill development and improvement.</p> <p><b>10.5.10.D</b> - Incorporate and synthesize knowledge of exercise principles, training principles, and health and skill-related fitness components to create a fitness program for personal use.</p> <p><b>10.5.10.E</b> - Evaluate movement forms for appropriate application of scientific and biomechanical principles.</p> <p><b>10.5.10.F</b> - Analyze the application of game strategies for different categories of physical activities.</p>